Three Powerful Ingredients to a Healthy Heart

Physical Activity, Food Choices, and Learning to Relax

With an emphasis on the importance of sleep

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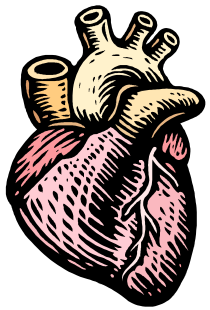
Participant Objectives

- Achieve a basic understanding of why heart health is important
- Identify at least 8 heart healthy food choices and 3 ingredients to limit
- Describe how stress affects the heart
- Explain the relationship between physical activity and bound energy
- Explain the importance of learning to relax and adequate sleep
- Identify practical tools and resources

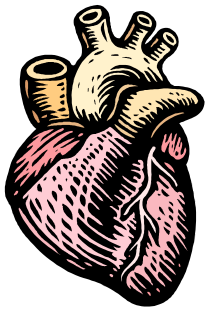
Basic Heart Function:
Keeping the pipes clean and the muscle strong

- Basic heart function is to pump oxygenated blood through vessels to provide nutrients to our cells:
  - To keep our brain alive and well
  - To allow the cells to perform all their functions and duties that keep the machine we call “body” running 24/7



Heart Disease

- The blood vessels known as coronary arteries supply blood to the heart. When the coronary arteries become blocked, narrowed, or hardened due to plaque build-up heart disease results.
- Plaque is the accumulation of fat and cholesterol on the inner wall of the artery. This stiffens the artery and makes blood flow more difficult or nonexistent (total blockage).
- Healthy Lifestyle changes can have a powerful impact on your risk of heart disease



The Protectors: 8 Heart Healthy Foods

Heart Healthy Food Groups	Examples	Why eat it?
Fish	• Salmon • Tuna	• Omega-3 fatty acids • Niacin
Fruits that are orange in color	• Oranges • Cantaloupe • Papaya	• Vitamin C • Carotenoids & Polyphenol (antioxidants) • Fiber (papaya) • Potassium
Green leafy vegetables	• Spinach • Broccoli	• Carotenoids • Folate • Potassium • Fiber • Vitamin C • Calcium (spinach)
Vegetables that are orange and red in color	• Acorn squash • Carrots • Tomatoes • Red bell pepper	• Fiber • Antioxidants
Nuts	• Walnuts • Almonds	• Omega-3 fatty acids (walnuts) • Mono and polyunsaturated fats • Vitamin B complex • Magnesium • Fiber • Folate (almonds)
Beans	• Black Beans • Kidney Beans	• Soluble fiber • Folate
Brown rice	N/A	• Magnesium • Niacin • Insoluble fiber
Oatmeal	N/A	• Soluble fiber

The Detractors: 3 Ingredients to Avoid or Limit

AVOID or LIMIT	Why limit?	Commonly found in these foods	Exchange for:
Trans Fats	Oils changed into solids through a chemical change; this type of fat sticks to the artery walls	• Processed foods • Cookies • Crackers • Frozen dinners	• Olive oil • Baked crackers • Homemade cookies* • Fresh fruits/vegetables
Caffeine	Stimulant causes increased heart rate	• Coffee • Caffeinated soda • Energy drinks • Chocolate	• Tea • Cocoa • 10% juice mixed with 90% club soda
Saturated Fats	Raises level of cholesterol in blood	• Beef • Whole-milk dairy products • Palm oil • Butter/shortening	• Fish • Legumes (beans, peas, nuts) • Skim milk • Poly and Monounsaturated oils • Applesauce*

**when baking consider substituting butter and shortenings with applesauce and oils*

Shop to Eat: Nutrient dense foods in each bite that push processed, fatty f

Protein: Fish, Chicken, Beans, Nuts, Tofu

Water

Fruits

Photo credit: CDC, Debora Cartagena Gathany

Photo credit: CDC, James

How Stress Affects the Heart

- Stress: a physical and emotional response to a demand
  - Body prepares for a physical threat
  - Heart rate increases
  - Blood pressure increases
- General Adaptation Syndrome: 3 stages our body goes through when stressed
  - Alarm, Resistance, Exhaustion
  - Based on Dr. Hans Selye
- Coping Strategies:
  - Ineffective and Effective
  - Determine whether our body recovers and moves back to equilibrium

General Adaptation Syndrome

Equilibrium	Alarm	Resistance	Exhaustion
• Steady state • Heart rate normal • Productive • Breathing rate rhythmic • Muscle tension minimal • Blood pressure is normal • Sleeping – refreshed on waking • Normal regulation of glucose • Positive mood	• Demand perceived: Alert and Focused • Heart rate increases • Pain threshold increases • Breathing quickens • Adrenaline & cortisol have been released • Muscle Tension • Blood pressure rises: arteries & capillaries constrict • Increase in glucose and cholesterol in blood stream	• Maintaining normal body functions under demands of stress • Heart rate elevated • Pain threshold decreases • Regular muscle tension: back pain, headaches, bruxism • Blood pressure stays elevated • Irritability level increases • Insomnia • Storing excess fat	• Resources depleted • Body begins to falter • Heart rate stays elevated - Heart disease • Immune system compromised • Regular headaches, arrhythmias, muscle pain • Blood pressure stays elevated: hypertension • Insomnia • Storing excess fat • Fatigued • Depression/Anxiety

Ineffective Forms of Coping that Increase Your Stress Level and Wreak Havoc

- Road Rage
- Yelling
- Isolating
- Eating Excessively
- Drinking Excessively
- Thinking negatively

- Stress Continuum Brochure

Effective Forms of Coping that Soothe your Stress Level

- What positive things can I do or say right now in this moment?

- Distractions/Entertainment:
  - Removes you mentally or physically from the stressor
  - Examples: TV, Movie, Book, Social Outlet

- Deep Relaxation:
  - Brings body and mind back to a state of equilibrium so that it may rest and repair itself
  - Methods: Meditation, Progressive Muscle Relaxation, Guided Imagery, autogenics, mindfulness
  - Diaphragmatic breathing is an essential part of most relaxation techniques

Benefits of Relaxation and Your Heart

- By teaching your body how to relax:
  - Decreases heart rate
  - Decreases blood pressure
  - Decreases anxiety
  - Decreases muscle tension
  - Improves sleep
  - Fortifies the immune system for increased resistance to invaders

Photo credit: CDC, Amanda Mills

Benefits of Physical Activity

- **Releases Bound Energy:**
  - Physical activity allows the release or the “using up” of stress hormones, excess glucose, and fat that are flowing through your blood stream
- **Makes the heart muscle stronger:**
  - Physical activity makes the heart muscle strong and better able to handle bouts of elevated stress. You build your bicep so that it can handle an increase weight or force. You build up your heart muscle so that it can withstand the “alarm” stage of stress.
- **Allows you to relax:**
  - Physical activity helps decrease muscle tension - a contraction is followed by a relaxation phase
  - Physical activity encourages deep and rhythmic breathing
- **Increases the ability to sleep:**
  - Uninterrupted sleep
  - Falling asleep

Benefits of Sleep

- Sleep allows the body and brain an opportunity to:
  - Do repair work
  - Reorganize memories
  - Slow brain waves
  - Decrease heart and respiratory rates

- The first 90 minutes are critical
  - The deepest sleep occurs
  - The heart rate and brain waves slow down considerably
  - The deepest sleep allows for full relaxation of the body

Sleep, the Military, and Heart

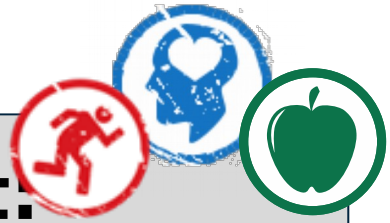
- Sleep disorders in the military are prevalent
  - Insomnia
  - Short sleep duration (<5 hours)
  - Obstructive Sleep Apnea

- Lack of sleep or interrupted sleep contributes to:
  - Elevated heart rate throughout the day
  - Increased fatigue, irritability, and error rate
  - Decreased response time and immune function

How to get a good night of sleep

- Limit caffeine 7 hours before bedtime
  - Example: If you go to bed at 10 p.m., stop caffeine at 3 p.m.
- Exercise most days to release stress hormones and muscle tension
- Regular bedtime
  - Plan for 7-8 hours of sleep
  - Choose a regular time to go to sleep and wake up
    - Example: Go to bed at 10- 10:30 p.m., wake up between 6-6:30 a.m.
- Regular bedtime routine
  - Example: Wash face, Brush teeth, 5 minutes of stretching, 10 minutes of deep breathing
- Limit alcohol to dinner, not after dinner
  - Drinking alcohol later in the evening increases interrupted sleep

By following the Heart Healthy strategies offered:



You will:

- Protect your Heart
- Strengthen your Heart
- Improve Heart Function
- Boost your Immune System
- Achieve Restful Sleep
- Manage Stress Well
- Perhaps, lose a little weight and stay

You will limit:

- High Cholesterol Levels
- Plaque Build Up
- Chronic Elevation in Heart Rate
- A Compromised Immune System
- Insomnia
- Irritability
- Heart Disease Risk

Heart Healthy Cooking: 8 Recipes

- Healthy White Bean Bruschetta
- Zesty Tuna Fish Salad Sandwich
- Fruit Salad with Jicama, Papaya and Oranges

- **Junior Chef's Cookbook Choices:**
  - Power Pesto Pasta with Spinach and Walnuts (Oklahoma)
  - Teriyaki Salmon Wrap with Brown Rice (Alaska)
  - Apple Oat Balls (Michigan)
  - Stuffed Red Peppers with Tomatoes and Almonds (Minnesota)
  - Secret Service Super Salad (Texas)

Resources

- Apps:
  - Breathe2Relax: Portable stress management tool
  - Mood Tracker: Mobile application that allows users to monitor and track emotional health
  - Tactical Breather: Application can be used to gain control over physiological and psychological responses to stress including your heart rate, emotions, concentration, and other physiological and psychological responses to your body during stressful situations

- For more information on heart health, visit the following sites:
  - American Heart Association
  - Centers for Disease Control and Prevention
  - National Heart, Lung and Blood Institute

Additional Resources

- NMCPHC HPW Website
- NMCPHC Active Living Website
- NMCPHC Psychological and Emotional Well-Being Website
- NMCPHC Healthy Eating Website
- ChooseMyPlate
- USDA Nutrition Website
- National Nutrient Database
- Benefits of Nutrients
- Diaphragmatic Breathing Instruction